



INDIAN INSTITUTE OF MATERIALS MANAGEMENT
Post Graduate Diploma in Logistics & SCM
Post Graduate Diploma in Materials Management - 2 years

DEC 2023

PAPER No. 10 (enrollment code - CMM, CSM, PMM, PSM)[ONLINE EXAM]

OPERATIONS MANAGEMENT

Date : 14.12.2023
Time : 10.00 a.m. to 1.00 pm

Max. Marks: 70
Duration : 3 Hrs.

Instructions:

1. Part A, contains 4 main questions (with 5 sub-questions) each question carries 1 mark - Total 20 marks
2. Part B answer any 3 questions out of 5 questions. Each question carries 10 marks - Total 30 marks
3. Part C is a case study. Read the case carefully and answer the questions - Total 20 marks

PART – A

(20X1= 20 Marks)

(Compulsory - Attempt all questions each question carries 1 mark)

Q.1 Select the right answer

[5 marks]

1. Failure Mode Effect Analysis (FMEA) is the process used to analyze
(a) Product failures (b) Process failures (c) Design failures (d) None of these
2. An organization practices multiple level strategies for its long-term plans. How many strategies are made
(a) 2 (b) 5 (c) 4 (d) 3
3. Product is one of the factors that influences the _____ strategy of an organization
(a) Corporate (b) Operations (c) Suppliers (d) Customers
4. Prototype testing stage is one of the stages in the _____ process
(a) Selection (b) Development (c) Design (d) Manufacturing
5. Histogram is one of the techniques used for conducting _____ analysis
(a) Process (b) Failure (c) Design (d) None of these

Q.2 Fill in the blanks

[5 marks]

1. Critical path method is one of the techniques of _____
2. _____ minimizes the overall cost of distance travelled and fixed cost related to delivery
3. Weighted factor rating method is used to compare the best _____ among multiple options
4. The Kano model categorizes _____ requirements into five types
5. Ishikawa diagram is also called as the _____

Q.3 Mention True or False

[5 marks]

1. A check sheet is one of the tools used to check the quality of a product
2. Capacity lead strategy is a method of capacity measurement and planning
3. Master production schedule is one of the components of the MRP system
4. A business level strategy is generally developed by the Head of the business unit
5. Customer driven strategies are driven by the sales department of the organization

Q.4 Match The following**Wh[5 marks]**

		COLUMN B	
Sr. No.		Sr. No.	
1	Inventory optimization	A	Identify risk
2	Predictive analysis	B	Location selection
3	Break even analysis	C	Project scheduling
4	Factor rating model	D	Material requirement planning
5	PERT	E	Cost equals income

PART - B**[Total 30 marks]****Answer any THREE out of the following five questions:**

- Q5.** (a) Name the techniques that can be adopted for project scheduling? what are the advantages? **[5 marks]**
 (b) What are the challenges faced by operations managers to achieve peak performance? **[5 marks]**
- Q6.** (a) What is the framework suggested by operations research for making effective decisions? **[5 marks]**
 (b) What are the stages in the process of strategy formulation? **[5 marks]**
- Q7.** (a) Explain with a diagram the step-by-step approach of predictive analysis **[5 marks]**
 (b) What is the purpose of MRP and What are its objectives? **[5 marks]**
- Q8.** (a) What is design of experimentation used for? What are the steps? **[5 marks]**
 (b) What is the objective and principles of process planning? **[5 marks]**
- Q9.** (a) What do you understand by facility layout planning and what is the focus? **[5 marks]**
 (b) Name 4 important quality tools. Explain briefly each of them with a diagram. **[5 marks]**

PART - C**[Total: 20 Marks]****Q.10****CASE STUDY (Compulsory)**

Mr. Robert is the owner of a number of industries. He has decided to set a new manufacturing facility for the manufacture of a new product. The design and manufacture of this product is not yet proven. Mr. Robert would like to optimize the product manufacturing process in a scientific method.

Having established the optimum process through the above method the next step is to initiate and stabilize the manufacturing process. Mr. Robert believes in a step-by-step systematic approach to achieve his goals. Having setup, the manufacturing facility successfully, it is imperative that the process is continued and products are produced with the best quality.

Mr. Roberts is aware of the cost of quality. He would like to institute certain quality control tools and techniques at multiple stages in the manufacturing line.

As a long-term strategy, Mr. Roberts has planned his line capacity with a base capacity and an additional capacity to cater to demand fluctuations. This method is expected to give advantage to Mr. Robert to reduce the initial installation cost to optimum levels.

Questions:

1. What is the method that must be followed by Mr. Robert and what are the steps in this method?
2. What is the approach that will give the best results in establishing the manufacturing process?
3. What are these quality techniques that will ensure product quality? Explain each briefly.
4. What are these two types of capacities. Explain each of them